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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,851	01/07/2004	Masakazu Sugimoto	52433/750	6018

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EXAMINER	
CHAPMAN, JEANETTE E	
ART UNIT	PAPER NUMBER
3633	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/753,851	SUGIMOTO ET AL.	
	Examiner	Art Unit	
	Jeanette E. Chapman	3633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12,14,15,17 and 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12, 14-15,17-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

112 1st

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 17-18 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In particular, there is no support in the original disclosure for requiring the peened portions of the shaped ribs (i.e. the U-shaped and V-shaped ribs) to extend at least 10 mm downward from the upper end portions of the ribs ***and*** to extend at a 30-60 degree angle on both sides of the center lines of the ribs. In support, note the discussion on page 6 of the written description which discusses limiting the peened portions 20 (Fig. 2) to a particular distance downward from the upper end portions of tabular ribs 12 only. Also, note the discussion beginning at the bottom of page 8 and continuing through line 8 on page 9 which discusses limiting the peened portion to an area defined by an angle on both sides of the center lines of U-shaped and V-shaped ribs 13 and 14 only. There is no discussion of limiting any peened portion to both a distance downward from the upper edge of a rib and to a region defined by an angle. *Figures 2 and 3 are directed to*

two different embodiments and there is no discussion or disclosure in the specification of the two embodiments being joined.

35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12, 14-15, 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugimoto et al. published PCT Application No. WO 01/16438 (Sugimoto) in view of Wensel and either Prokopenko et al., USP No. 6,467,321, (Prokopenko) or the Lixing et al. published article "Investigation on Improving Fatigue Properties of Welded Joints by Ultrasonic Peening Method" (Lixing). Note that the Sugimoto document is the WIPOpublication of the PCT application which forms the basis for USP 6,857,808.

Sugimoto et al. '808 is being used as an English translation of the WIPO document.

The invention is directed to the reinforcement of "weld toes" located at the free end portions of ribs that are welded to the base of a steel pipe pole to form a T-joint. A "weld toe" is that portion of a weld which extends around the free end portion of a rib. See Figs. 1-3. The problems being addressed are (1) that pole vibrations caused by the wind subject the pole to large stress concentrations near the weld toes thus causing the strength of the weld toes to deteriorate and (2) that the welding heat causes residual

tensile stress and material degradation which also affects the strength of the entire weld. The reinforcement is carried out by an ultrasonic peening process.. See pages 1 and 2 of the written

description.

Sugimoto recognizes both of these problems and addresses them by providing ribs that are bent in the form of a U or a V. See the discussion in columns 1 and 2 of the Sugimoto '808 patent. However, Sugimoto does not disclose peening or any other process for improving the strength of the weld, per se.

Prokopenko discloses a device used for metal peening and states that peening provides for strengthening and stress relaxation of metals. See col. 1, lines 6-9. He further states that ultrasonic peening is useful in treating a T-shaped welded joint in the zone of the weld toe. See column 7, lines 13-20.

Wenzel discloses a steel pipe pole 12/14 reinforce with tabular ribs 13 welded to the steel pipe in the form of a t-Joint. The welding portions 16 for the tabular ribs 13 is located from the upper end portion of the ribs to at least 10mm downward from the upper end.

WO '438 or Sugimoto et al discloses differently configured welded toes. Wenzel shows tabular portion resembling those shown in applicant's figure 2. The configuration of the weld toes lacks criticality or relevancy. Applicant's description does not discuss one to be favorable over another; indeed different configurations appear to be alternative equivalents. In view of the above it would have been obvious to use any configuration for the weld topes enabling the toes to support any type of pole and its weight thereof.

Lixing recognizes that fatigue cracks normally initiate in the weld toe of a welded joint and that ultrasonic peening of the weld toe significantly improves its fatigue life. See the Lixing et al. abstract.

None of the prior art discloses that the peened portion should extend at least 10 mm downward from the upper end portion of a rib or that the peened portion should extend at any particular central angle on both sides of a center line, as claimed. However, the applicant does not state that either limitation is critical or provides an unexpected result. Furthermore, he does not so much as point out an advantage of the claimed distance and angles over other distances and angles. He merely states that the claimed length and angles are "preferable." See page 6, lines 28-31, and; page 8, line 34-page 9, line 2. In addition, he states that it is also acceptable to apply peening treatment to other welded portions. See page 9, lines 32-36. On page 6 of the amendment filed on June 6, 2006, applicant argued that these limitations render the claims patentable, but did not explain why. He merely argued that the prior art does not "disclose or suggest the very specific locations for the peening processed portions."

In order to establish unexpected results over a claimed range, an applicant should compare a sufficient number of tests both inside and outside the claimed range to show the criticality of the claimed range. See MPEP 716.02(d), section II. Test results which demonstrate criticality may be presented in an affidavit submitted as evidence during prosecution. See MPEP 716.01(a) and 716.02(e). Until such time as the applicant demonstrates criticality, it is reasonable for the PTO to take the position that the claimed

length and angles are merely the result of optimization of ranges, as discussed in MPEP 2144.05, Section II.

Accordingly, it is submitted that it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the weld toes of the ribs disclosed by Sugimoto (e.g. in Figure 2) by providing them with peened portions as taught by either Prokopenko or Lixing. The motivation for these combinations comes from each of the references. All three documents recognize that welds, and weld toes in particular, are weak. Furthermore, both Prokopenko and Lixing teach that peening increases the strength of a weld and is particularly useful in strengthening weld toes. The particular claimed distance and angles would have been obvious matters of routine experimentation for one of ordinary skill in the art because one of ordinary skill would be fully capable, through routine experimentation, of arriving at the optimum length and angular extent of a peening portion. Since peening is known in the prior art to strengthen welds and weld toes are known to be weak, and since applicant admits that it is acceptable to peen the entire rib weld (page 9, last paragraph of written description), the only consideration in peening less than the entire weld would be a financial one. In other words, in order to hold down the cost of peening, one skilled in the art would peen only so much of the weld as is required to provide the desired strength. Clearly such a determination could easily be made by routine experimentation.

Claims 14 and 15 are also unpatentable over the above combination of references Sugimoto and Prokopenko are of record.

Response to Arguments

Applicant's arguments filed 11/23/07 have been fully considered but they are not persuasive..

On page 6 of that amendment the applicant argues that Prokopenko only discloses that ultrasonic peening of metals is known in the art. Applicant further argues, "US '808 discloses numerous embodiments of steel structures. PK makes no disclosure or suggestion of which locations in these steel structures one skilled in the art should apply peening by ultrasonic vibrations to achieve improved results." These statements are incorrect. Prokopenko clearly discloses the use of peening to strengthen the weld toe of a T-shaped joint, thus clearly suggesting the use of peening to strengthen the weld toes of the joints disclosed by Sugimoto (US '808). See column 7,lines 14-20 of Prokopenko.

Regarding the combination of the peening extending 10mm downward and at the angle range of 30-60 degrees, see 112 rejection above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chapman E. Jeanette whose telephone number is 571-272-6841. The examiner can normally be reached on Mon.-thursday, 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on 571-272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEANETTE CHAPMAN/
PRIMARY EXAMINER
ART UNIT 3633